

# California IOU Retail Electricity Price Outlook 2003-2013

*Energy Policy Report Proceeding  
Docket 02-IEP-01*

**Staff Draft Report**  
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# Items to Discuss

1. Why Make Electricity Rate Projections

2. Typical IOU Customer

3. Present Rates

4. Projections

a) Generation Cost

b) Non-Generation Cost

5. Results



# 1. Why Make Electricity Rate Projections

Rates = Prices = Average Revenue (IOU) = Average Cost (Customer)

Projection = Outlook = Forecast = Estimate

This projection is ONE scenario of many

Electricity rate projection is an input to:

- Demand forecast, building efficiency standards
- Cost/benefit analysis of energy efficiency and cogeneration projects
- Budget estimates of public agencies
- Other (i.e. consultant studies)



## 2. Typical Customer

- Monthly characteristics of an IOU typical customer:

TABLE 1					
	Residential	Small Commercial	Medium Commercial	Industrial	Agricultural
Usage kWh	500	1,241	21,863	735,305	5093
Load Factor %	NA	47	50	83	35
Max. Demand	NA	3.6	60	1,217	20

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- Consumption by customer from PG&E and Edison FERC Form 1
- CEC staff estimates.
- PG&E load profiles (average demand/maximum demand)



- Numerous rate schedules (i.e. PG&E residential > 30)
- Rate schedule/customer class:

TABLE 2					
Utility	Residential	Small Commercial	Medium Commercial	Industrial	Agricultural
PG&E	E-1	A-1	A-10	E-20	AG-1 (B)
SCE	D	GS-1	DS-2	TOU-8	PA-1
SDG&E	DR	A	AL-TOU	A6-TOU	PA

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- Most consumption occurs in these rate schedules (i.e. residential 70-80%)



### 3. Present Rates


- Present Rates  Average Revenue/kWh
- Residential: Basic charge, kWh baseline allocations, and other charges for each of the five tiers.

TABLE 3 EDISON RESIDENTIAL RATE TIER 1(BASELINE) \$/KWH		
	Summer	Winter
Transmission	\$ 0.00395	\$ 0.00395
Distribution	\$ 0.01491	\$ 0.05609
Nuclear Decommissioning	\$ 0.00066	\$ 0.00066
Public Purpose Programs	\$ 0.00349	\$ 0.00349
TRBAA	\$ (0.00062)	\$ (0.00062)
PUCRF	\$ 0.00012	\$ 0.00012
TTA - FTC	\$ 0.01222	\$ 0.01222
Tariffed Generation	\$ 0.09536	\$ 0.05418
Total Rate	\$ 0.13009	\$ 0.13009
Baseline Allocations for Region 10: 306 kWh/mo for Summer and 303 kWh for Winter		



**TABLE 4**  
**EDISON RESIDENTIAL RATE**  
**TIER 5**  
**\$/KWH**

	Summer	Winter
Transmission	\$ 0.00395	\$ 0.00395
Distribution	\$ 0.01491	\$ 0.05609
Nuclear Decommissioning	\$ 0.00066	\$ 0.00066
Public Purpose Programs	\$ 0.00349	\$ 0.00349
TRBAA	\$ (0.00062)	\$ (0.00062)
PUCRF	\$ 0.00012	\$ 0.00012
TTA	\$ 0.01222	\$ 0.01222
Tariffed Generation	\$ 0.22520	\$ 0.18402
<b>Total Rate</b>	<b>\$ 0.25993</b>	<b>\$ 0.25993</b>
Charges for Consumption above 300 Percent of Baseline		



**TABLE 5**  
**EDISON AVERAGE RESIDENTIAL RATE**  
**CENTS/KWH**

	Summer	Winter	Average
Transmission	0.395	0.395	0.395
Distribution	1.689	5.807	3.748
Nuclear Decommissioning	0.066	0.066	0.066
Public Purpose Programs	0.349	0.349	0.349
TRBAA	(0.062)	(0.062)	(0.062)
PURCF	0.012	0.012	0.012
TTA	1.222	1.222	1.222
Generation	10.167	6.778	8.472
Basic Charge	0.198	0.198	0.198
Total Average Rate	14.036	14.765	14.401
10% Rate reduction	(1.276)	(1.276)	(1.276)
Total Effective Rate	12.760	13.489	<b>13.125</b>
Note: Table includes all charges to five tiers			

CEC Staff Estimates  
Nov. 2002



- Average present rates for other customer classes include energy surcharges and demand, customer, energy, and meter charges.
- IOUs list rate components differently in their tariffs.
- Edison includes energy surcharges in the generation charge. PG&E separates the charge in tariffs.



## 4. Projections

CEC staff assumptions:

- CPUC will keep the same rate structure (i.e. existing proportional revenue allocation among customer classes/rate schedules)
- Edison, PG&E and SDG&E will finish over-collecting \$ in rates (i.e. surcharges end in 2003)
- Future rates will reflect generation and non-generation cost of service.



Staff projected cost for each rate component:

**a) Generation Cost:**

Components of generation cost include Utility Retained Generation (URG), DWR contracts, Renewable Portfolio Standard (RPS), and Spot Market Purchases



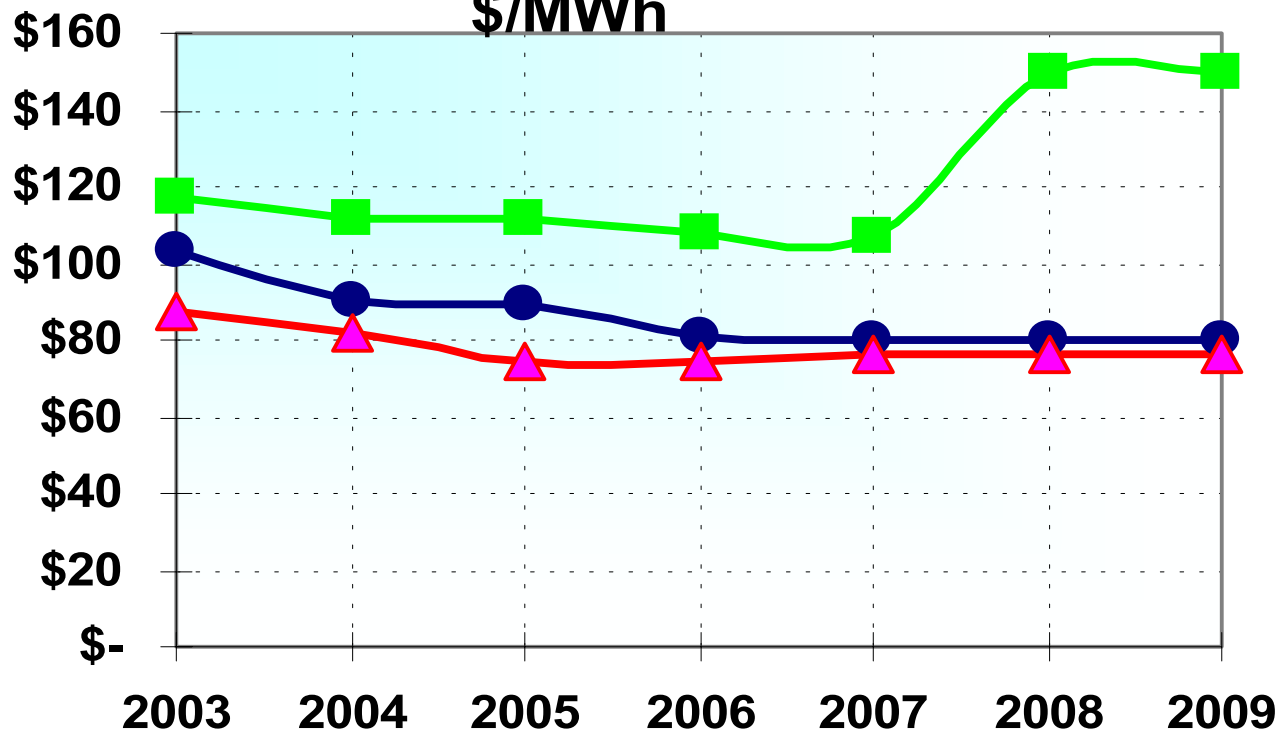
**TABLE 6**  
**DWR Contracts**  
**(\$000)**

<b>Fixed Must-take Costs</b>	2003	2004	2005	2006
PG&E	\$ 1,502,307	\$ 1,383,227	\$ 1,364,541	\$ 1,236,759
Edison	\$ 1,350,263	\$ 1,751,084	\$ 1,313,038	\$ 1,305,087
SDG&E	\$ 287,505	\$ 377,718	\$ 377,718	\$ 315,775
Subtotal	\$ 3,140,075	\$ 3,512,029	\$ 3,055,298	\$ 2,857,622
<b>Fixed Must-take Energy</b>				
PG&E (GWh)	20196	20560	20505	20204
Edison (GWh)	18213	25747	21859	21613
SDG&E (GWh)	3534	4899	4893	4455
Subtotal	41943	51206	47257	46272
<b>Fixed Dispatchable Costs</b>				
PG&E	\$ 381,869	\$ 292,150	\$ 294,226	\$ 243,218
Edison	\$ 86,635	\$ 159,242	\$ 159,249	\$ 159,255
SDG&E	\$ 86,088	\$ 117,418	\$ 117,420	\$ 117,422
Subtotal	\$ 554,592	\$ 568,810	\$ 570,895	\$ 519,894

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**Figure 1**  
**DWR Average Energy Cost**  
**\$/MWh**

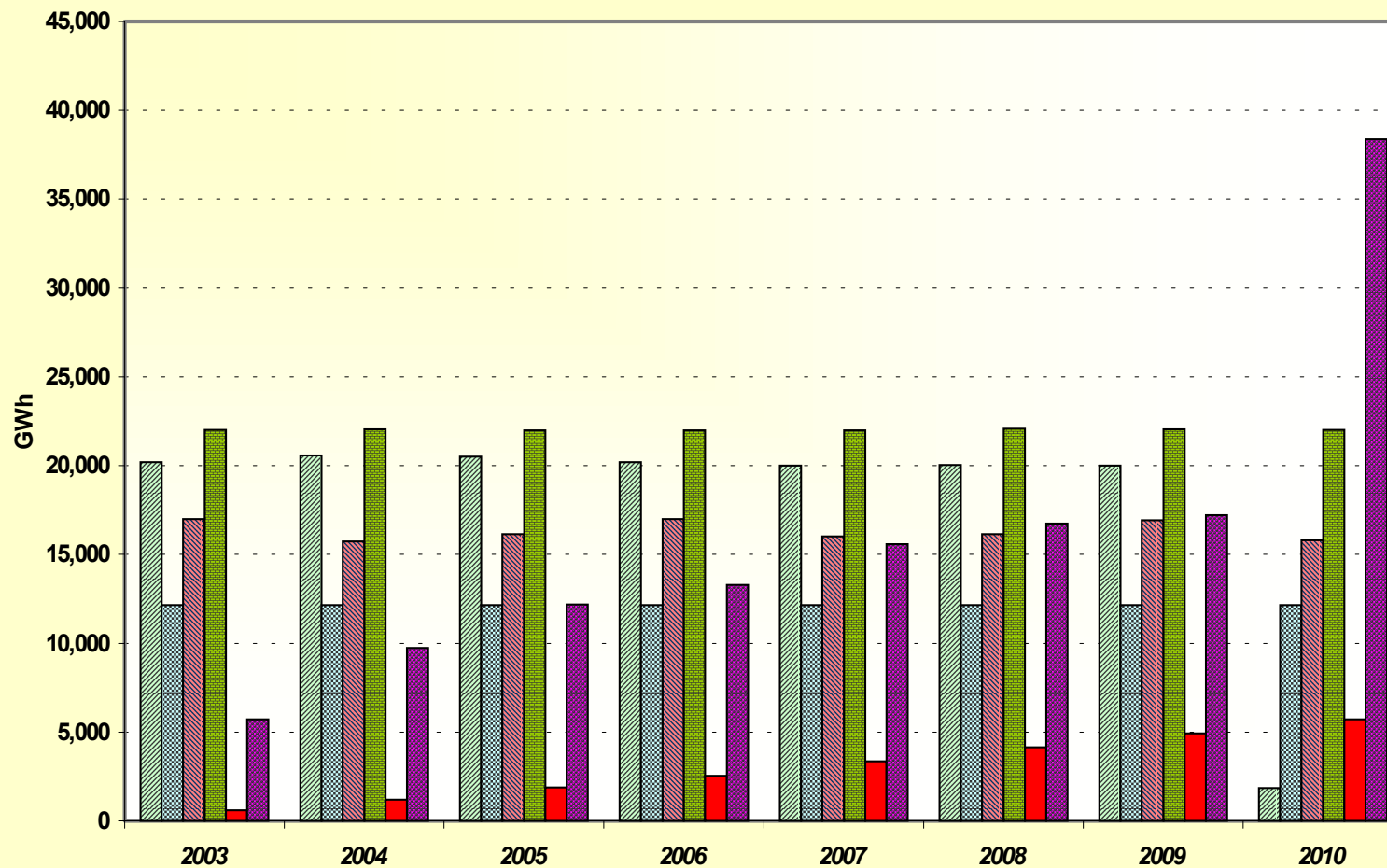


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PG&E Edison SDG&E



**Figure 2**  
**PG&E Energy Resource Outlook**  
**2003-201**



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DWR Hydro Thermal Qfs Renewables Net short



Figure 3  
2004 PG&E Energy Resources

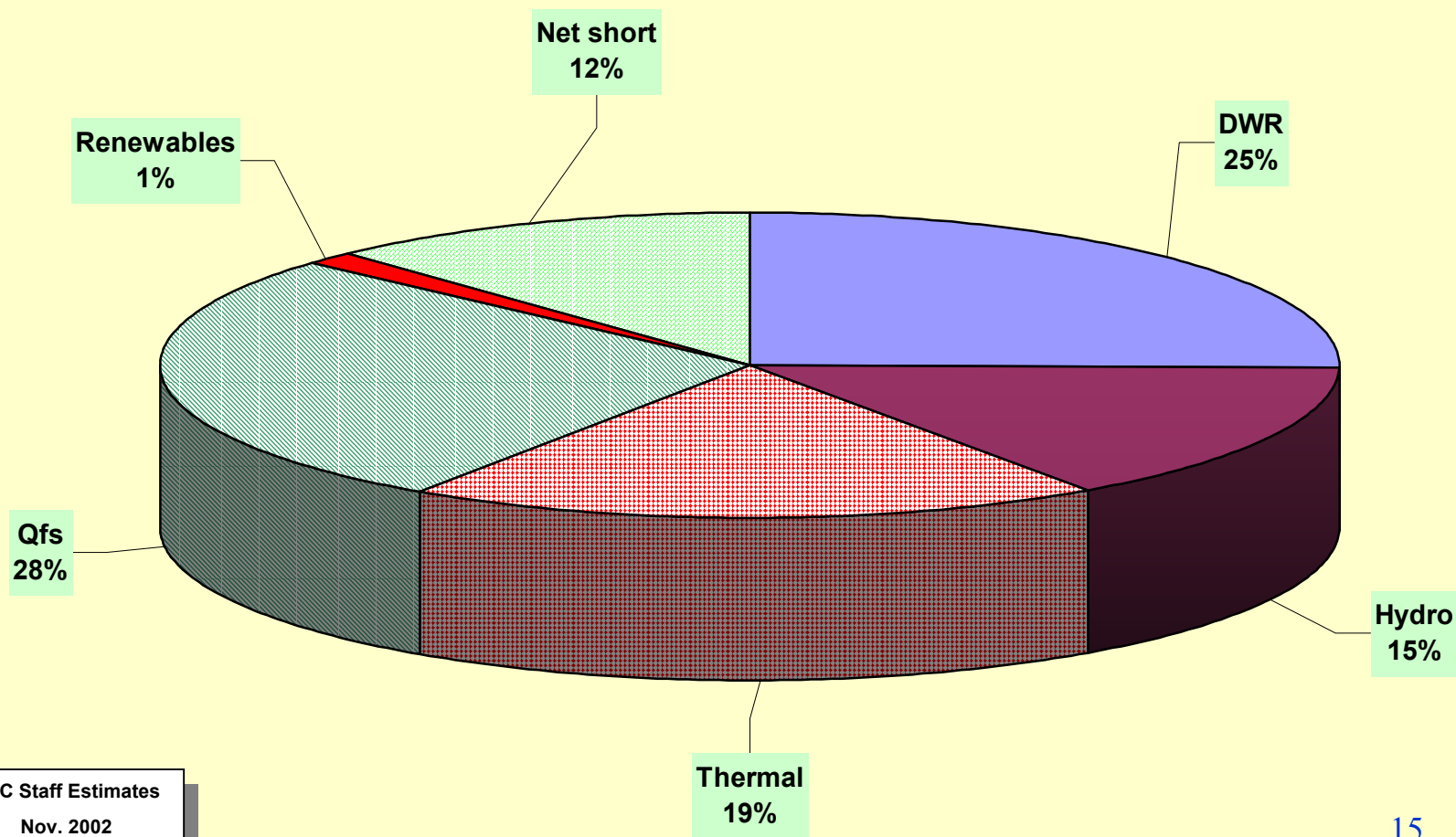
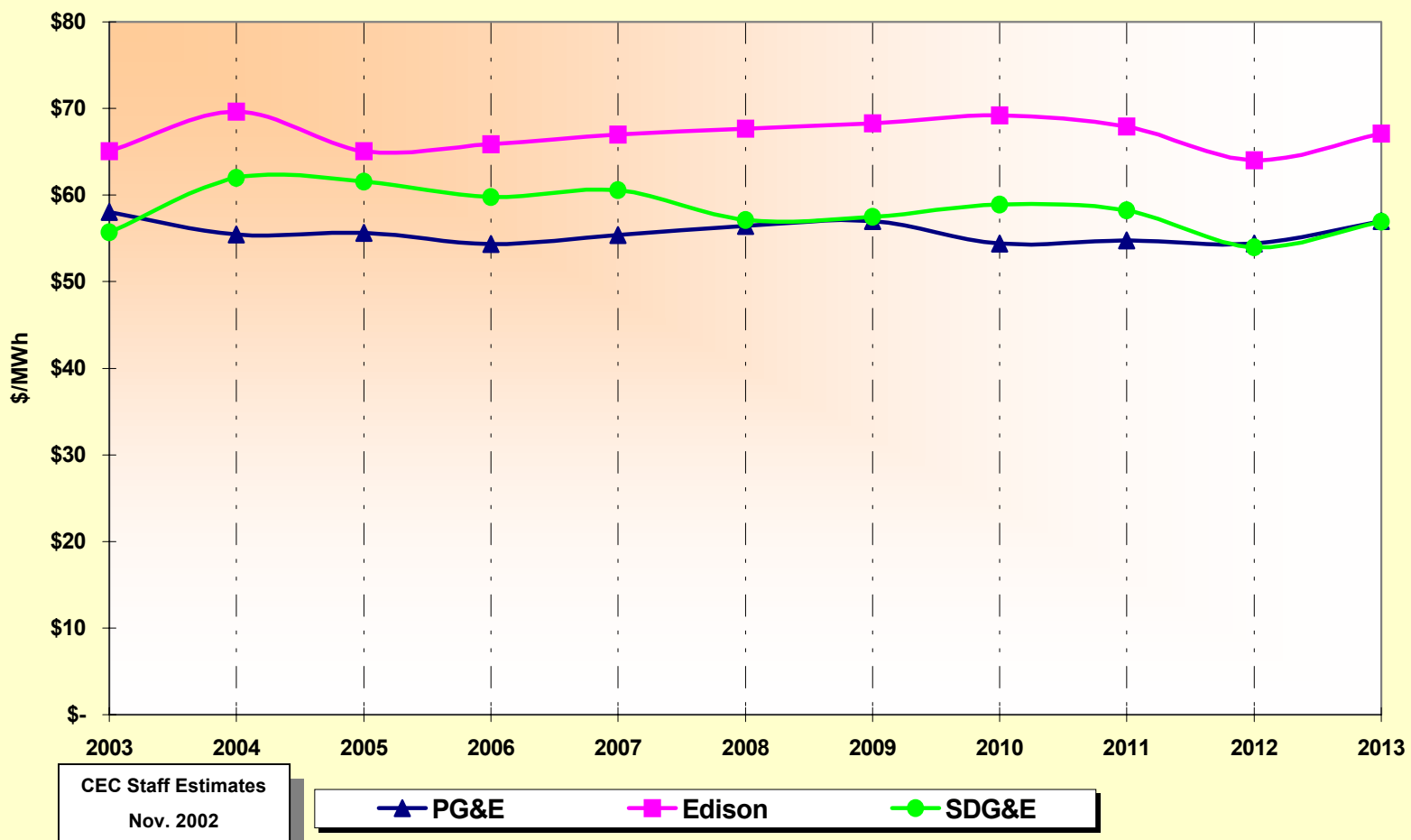




Figure 4  
IOU Weighted Average Energy Cost  
2003-2103





## **b) Non-Generation Cost**

Transmission, Distribution, Nuclear  
Decommissioning for each customer class  
increase with inflation

Trust Transfer Amount (TTA) expires in 2007

Ten Percent Rate Reduction for residential and  
small commercial customers ends in 2003



## 5. Results

**Table 7**  
**PG&E Medium Commercial Electricity Rate**  
**Cents/kWh**

	<b>2003</b>	<b>2004</b>	<b>2005</b>
Transmission	0.44	0.47	0.48
Distribution	2.25	2.40	2.49
Public Purpose Programs	0.38	0.38	0.38
FTA	1.00	0.94	0.88
Nuclear Decommissioning	0.04	0.04	0.04
Reliability	0.39	0.41	0.42
<b>Total Non-Generation</b>	4.50	4.64	4.70
Generation	4.88	5.48	5.49
Surcharges	5.47		
DWR Bond Surcharge	0.42	0.51	0.49
Generation +Surcharges	10.76	5.98	5.98
10 Percent Reduction	(1.02)	-	-
<b>Total</b>	14.24	10.62	10.68



**Table 8**  
**Edison Medium Commercial Electricity Rate**  
**Cents/kWh**

	<b>2003</b>	<b>2004</b>	<b>2005</b>
Transmission	0.32	0.35	0.36
Distribution	2.40	2.56	2.65
Nuclear Decommissioning	0.05	0.06	0.06
Public Purpose Programs	0.29	0.29	0.29
TRBAA	-0.06	-0.06	-0.06
PUCRF	0.01	0.01	0.01
<b>Total Non-Generation</b>	<b>3.02</b>	<b>3.20</b>	<b>3.31</b>
Generation	12.02	7.74	7.23
DWR Bond Surcharge	0.42	0.51	0.49
<b>Total</b>	<b>15.46</b>	<b>11.45</b>	<b>11.03</b>

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**Table 9**  
**SDG&E Medium Commercial Electricity Rate**  
**Cents/kWh**

	<b>2003</b>	<b>2004</b>	<b>2005</b>
Transmission	0.64	0.68	0.70
Distribution	2.82	3.01	3.12
Nuclear Decommissioning	0.07	0.07	0.07
Public Purpose Programs	0.30	0.30	0.30
Restructuring Implementation	0.07	0.07	0.07
<b>Total Non-Generation</b>	<b>3.90</b>	<b>4.13</b>	<b>4.27</b>
Generation	7.88	6.46	6.42
CTC	0.78	0.78	0.78
RMR	0.40	0.41	0.43
Generation+CTC+RMR	9.06	7.66	7.63
DWR Bond Surcharge	0.42	0.51	0.49
<b>Total</b>	<b>13.38</b>	<b>12.30</b>	<b>12.39</b>



- 1) How realistic are staff assumptions of a typical customer for residential, small commercial, medium commercial, industrial and agricultural customer classes described in **Table 1** of both, the municipal and investor-owned utility, reports on retail rates?
- 2) Staff derived present rates using only one rate schedule to represent a customer class. Is this enough to represent a whole customer class?
- 3) Staff used baseline allocations and tier rates to derive a present average rate for residential customers. Would this method distort the definition of present rates for a typical residential customer?
- 4) Staff used present rate components to project IOU and municipal future rates, except that municipal utilities do not unbundle rates as IOUs do? Is this methodology appropriate?
- 5) Staff has assumed that the California Public Utilities Commission will keep the same rate methodology for allocating revenue requirement among customer classes and rate schedules over the 2003 outlook period. What is the likelihood that the CPUC will radically change that method over that period?
- 6) Although the outcome of the PROACT agreement is still in question at the State Supreme Court, is it possible that the CPUC will implement a similar agreement with PG&E?
- 7) How likely is a major change in rates over the outlook period?
- 8) If the staff's rate outlook materializes, what is the impact to attract or retain businesses in the State?
- 9) Can municipal utilities in Southern California compete with Edison after the energy surcharges are dropped from rates?
- 10) What impact would lower IOU rates in 2004 have on distributed generation?